

## **ACCREDITATION OF ONLINE AND DISTANCE LEARNING PROGRAMS: ONLINE GIS EDUCATION PROGRAM EXPERIENCE**

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### **ABSTRACT**

The quality issue emerged as a topic of concern for the goods and product market has also become a key element in services like higher education.

With the rise of the mobility of students, academicians and graduates, the quality and the compatibility of education systems have recently been subject to much debate.

Moreover, the huge role of higher education in a society's economy and prosperity has added new dimensions to the measures of quality in higher education. With the quality assurance as a separate instrument in university management and in government policy, accreditation processes referring to compatibility of a higher education institution or a program with national or international performance standards started as a new quality assurance mechanism in different geographies around the World.

On the other hand, the varying needs and living conditions, advancements in information technologies and internet, easy access and communication opportunities, and increased willingness to share information have given rise to a new form of education called distance learning.

Online geographical information systems (GIS) program of Anadolu University is one of the distance education programs awarding an associate degree in the field.

Using the GIS program as a case study, this paper analyses the eminent role of accreditation of online and distance learning programs on the transformation of quality measures in higher education.

This paper also presents the detailed learning outcomes of the program and its importance for accreditation.

**Keywords:** Quality in higher education, accreditation in higher education, online and distance learning, GIS.

## **QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION**

Quality is a significant concept that has strong reflections and impacts in every field of our lives. Though it was first deliberately dealt as a way of making more profit in the goods and product market by providing total customer satisfaction, the increased cultural and social awareness, ever ending customer expectations and thus, continuous improvement necessity have accelerated the spread of quality practices into services such as health and education. As the population increases and mobility of students, academicians and graduates becomes easier and desirable, the quality and the equivalence of the education systems are much more discussed and questioned. Even in local or regional levels, the preferability of a school or a program, eligibility for grants and employment depend on the quality issues.

The quality of higher education has also significant effects on a society's economical status and prosperity. Countries having a qualified higher education system mostly develop strong information-based industries and precede the others. Governments, companies, and individuals all recognize that while an assembly-line worker is valuable, the real competitive advantage comes from a well-educated mind, producing breakthrough ideas that advance technologies and lead to new products, new initiatives, and ultimately a stronger society. As universities and businesses alike implement updated strategies they are redefining venue and pedagogy. Consequently, they must also redefine measures of quality (Prendergast *et all*, 2001) (Wang, 2006).

Until the 1970s, quality in higher education was controlled through bureaucratic means. At that time, this way of ensuring quality of higher education was fairly successful.

However, quality assurance as a separate instrument in university management and in government policy started in 1970s and 1980s, when it was discovered as a new management tool in industry mimicking the success of Japanese economy.

First, higher education in the USA was influenced, later around 1984, the first governmental policies were implemented in Western Europe (Schwarz & Westerheijden, 2007). In fact, in the United States, accreditation processes started more than a 100 years ago as a quality assurance mechanism at regional and national levels, which have resulted in the superiority of American universities compared to the ones in Europe. CHEA (Council for Higher Education Accreditation) presents accreditation as the "primary means of assuring and improving the quality of higher education institutions and programs in the United States" and introduces it as "the central to the creation of a U.S. higher education enterprise that is outstanding in many respects." CHEA (2012) explains that accreditation is:

- The primary public symbol of legitimate higher education for over 100 years.
- The primary "reliable authority" for federal and state governments funding for higher education.
- The primary reliable authority for private sector financial support for higher education.
- A major source of protection against fraud and abuse for students and consumers.
- Successful in encouraging major innovation while maintaining quality over the years.
- Cost-efficient in the use of resources to achieve its goals.
- Central to states carrying out licensure of the professions.
- Essential to international mobility.

- **Responsive to current climate of accountability.**
- **Vital to maintaining key features of higher education that have contributed to the enterprise as among the best in the world.**

**These facts and high rankings of American universities caused a significant impulse to constitute Bologna Process, which started in 1999 in order to establish a European Higher Education Area (EHEA), so that the higher education quality within Europe could be increased and an educational equivalence between different countries could be provided.**

**Although, as Haug (2003) emphasizes, quality assurance was not among the most prominent features of the Bologna Declaration in the very beginning and the process mostly focused on the harmonisation of the qualifications in order to make them readable and ease their recognition, starting from Salamanca Message in 2001, accreditation was highlighted.**

**In 2003, all European countries, with the exception of Greece and Denmark, defined their system as having implemented some type of accreditation scheme (Schwarz & Westerheijden, 2007). Although it still has some shortcomings and presents limitations in practice, quality assurance and accreditation of programs have been important items of the process since Bergen Summit in 2005, which lead the member countries to develop and adopt accreditation mechanisms to provide quality assurance in their higher education systems.**

**Haug (2003) also describes that the current Bologna process tends to be built around introduction of bachelors-masters instead of long, traditional degrees; the adoption of ECTS or ECTS-compatible credits; and the setting up of quality assurance/accreditation mechanisms.**

**Higher education accreditation basically refers to compatibility of a higher education institution or a program with national or international performance standards, so that both the students, families, government authorities and the public are provided with the knowledge that the mentioned institution or program meets the minimum quality standards.**

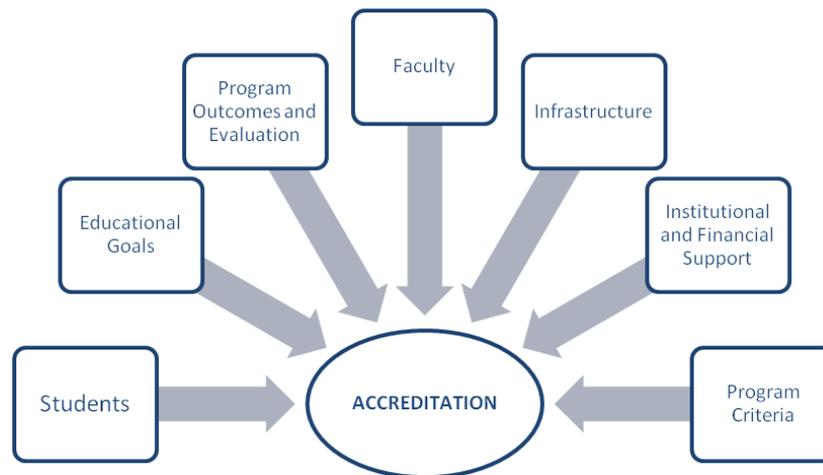
**Accreditation has remarkable effects on the improvement of education and research quality and academic performance. It also has a significant influence on students' and employers' perception of the institutions and programs. Students see accreditation as an assurance to obtain a recognised degree, while employers tend to hire graduates of accredited programs.**

**Accreditation is a voluntary system for quality assurance depending on self-examination and peer review and requires continuous quality improvement. Accreditation mechanisms comprise partnerships with the graduates, professionals and the public. Thus, it has a bridging role between the university and the society and helps sustain communication between these two.**

**Generally, an accreditation process comprises some fundamental elements/phases: a set of standards for evaluation, a self-evaluation report, evaluation by an external review committee, site visit, and review committee report and accreditation decision.**

**The accreditation standards may differ depending on the accreditation agency, program or country.**

**However, it is still possible to talk about some basic accreditation standard categories to be met (Figure 1).**



**Figure: 1**  
**Basic Accreditation Standards**

Considering the nature of accreditation, all requirements under each category are expected to be based on continuous improvement and life long learning approach is usually a major element in the process. The basic requirements in each category are as follows:

- **Students:** It is necessary to define the minimum necessary student qualifications. Processes and methods must be identified to assess students' achievement of the program. Students must be advised and mentored regularly.
- **Educational Goals:** There must be clearly defined educational goals to fulfil the educational mission. Processes to meet these goals and realize sustainable evaluation procedures must also be defined.
- **Program Outcomes and Evaluation:** Program outcomes to provide students with necessary knowledge, skill and abilities must be clearly defined. Students must demonstrate achievement of the program outcomes.
- **Faculty:** The qualifications and the number of the academic staff must be appropriate to fulfil the educational mission and the goals. Academic staff must be supported, encouraged and provided with sufficient opportunities for professional and personal development, as well as student advising and mentoring duties.
- **Infrastructure:** There must be sufficient infrastructural opportunities such as buildings, spaces, information systems, technical equipments, library collections etc. sufficiently accessible for students and the personnel.
- **Institutional and Financial Support:** Sufficient institutional and financial resources to sustain the quality and improvement of the program to enable achievement of the program mission and educational goals must be provided.
- **Program Criteria:** For each separate program, program criteria must be defined.

## **ACCREDITATION OF DISTANCE LEARNING PROGRAMS**

The population is increasingly growing, so is the need for education. Considering this simple fact, distance learning plays an important role in education today. Salmi (2001) explains that in the past few years, many countries have witnessed significant transformations and reforms in their higher education systems, including the emergence of new types of institutions, changes in patterns of financing and governance, the establishment of evaluation and accreditation mechanisms, curriculum reforms, and<sup>234</sup> technological innovations. The varying needs and living conditions, advancements in information technologies and internet, easy access and communication opportunities,

and increased willingness to share information have been important key issues for developing distance and open education systems globally (Rudestam & Schoenholtz, 2002). Internet technology enables universities to offer courses in an anywhere, anytime environment opening new possibilities for both students and the academic staff. Distance learning is seen most necessary to eliminate the space and time limitations and remove borders between the institutions by connecting learners with educational resources. For some countries, distance learning is relatively new as a mode of learning in higher education. In other countries, it is the technology of delivery that is new, rather than the mode of learning. No matter how it is seen in varying geographies, with the convergence of media and technology, distance learning is becoming a complementary or integrated part of conventional approaches to learning as well as an alternative choice of learning mode. Common characteristics of distance learning include (Lee & Dziuban, 2002) (Middlehurst & Woodfield, 2004) (Çabuk et al, 2009):

- A separation between teacher and learner (in time, place or both),
- Accreditation or certification by a learning institution or external body (although this is not always the case),
- Use of varied media for course delivery (printed materials, radio, TV, video, computer-based learning and telecommunications),
- Communication mechanisms (between teacher and learners and learners and learners),
- Optional personal meetings (tutorials, practical sessions),
- Use of industrialised processes (for large-scale operations).

The growth of distance learning has an international dimension, since countries around the world are using distance learning technologies to enlarge their own course, program and degree offerings and to import and export education programs and services (Eaton, 2001). Program accreditation is very important to be successful in this competitive education market. Depending on diverse factors such as public and sectoral demands, national educational frameworks, social and economical requirements, infrastructural/technical opportunities and etc., the structure of online and distance learning differs from country to country. In the current environment, it is incumbent on organizations to demonstrate the quality of their services in ways that are intelligible to potential students and their employers, faculty and staff, regulators, and government agencies (Parker, 2004).

As online and distance learning may also be independent from national borders and have an international scope, this diversification reveals quality questions. According to Stella and Gnanam (2004), there is considerable dialogue throughout academia about what constitutes quality in distance education and how to ensure it. There was a time when courses through distance education were criticized on the counts of poor quality, not being on par with the regular courses, lower standards of students who enroll, and being detrimental to the planning of higher education in the country. Quality assurance issues in online and distance learning have become significant and inevitable for the success of the programs. However, quality assurance needs and measures, and the ways countries choose to provide quality assurance in online and distance learning also change. Middlehurst and Woodfield (2004), specify the range of the agencies, associations and networks (ENQA, INQAAHE, UNESCO, etc.) involved in quality review of distance learning vary in scale and scope in different countries; and point out that USA leads the way in its range of networks and associations for distance learning, the variety of quality review and improvement processes that exist and in the amount of distance learning that is reviewed. Chao et al (2006), notify that starting from the 1980s, there have been various researches and publications on online and distance education and all these included criteria in one or more of the following areas:

- **Institutional support**
- **Course development and instructional design**
- **Teaching and learning**
- **Course structure and resources**
- **Student and faculty support**
- **Use of technology**
- **E-learning products and services.**

**CHEA (2002), underlines 3 major challenges for accreditation in distance learning: alternative design of instruction, alternative providers of higher education, and expanded focus on training. Accreditation has responded to these challenges by making significant changes in accreditation standards, policies, and procedures. These changes address the seven distinct areas of institutional activity that are of greatest significance to assuring quality in a distance learning environment: institutional mission, institutional organization, institutional resources, curriculum and instruction, faculty support, student support, and student learning outcomes. Careful examination of each in relation to distance learning offering is essential to assuring the quality of alternative designs and providers as well as the expanded focus on training.**

- **Institutional Mission: In the distance learning environment, accrediting organizations focus on the relevance of the distance learning programs and courses to the institution's mission. Accreditors also focus on demonstration of need for a distance learning offering in relation to institutional mission.**
- **Institutional Organizational Structure: Accreditors generally provide institutions with considerable flexibility in establishing structures that meet an institution's particular needs when developing distance learning initiatives. All require effective planning and evaluation systems and appropriate administrative structures that allow the institution to achieve its distance learning goals. Institutional structures for distance learning may vary significantly based on interest in subcontracting or entering into other arrangements for delivery of distance learning rather than the institution itself providing distance learning.**
- **Institutional Resources: Accrediting organizations address an institution's financial capacity to provide an educational program that meets generally accepted norms for quality.**
- **Curriculum and Instruction: Accrediting organization standards related to curriculum and instruction vary considerably because of the different types of institutions they accredit and the diverse credentials (degree or certificate) the institutions award. Certain common features do prevail, however. The standards address the content of the curriculum, the structure of the credential awarded, and the institution's process for reviewing and updating the curriculum. This includes appropriate academic support for the educational programs of the institution, including library and learning resources. The appropriateness of the subject matter for delivery at a distance is also a focus of accreditation attention. Academic support that is essential to the distance learning environment is also addressed accreditation review. This includes the technology and methodology the institution uses to deliver the instruction.**
- **Faculty Support: In a distance learning environment, faculty support includes technological support for delivery of distance learning offerings. Appropriate training for faculty in technology is also important. Faculty capacity to teach in a distance learning environment is essential as well.**
- **Student Support: Accrediting organizations require adequate and appropriate support for the students served by the institution in a distance learning environment. This includes a major emphasis on technical support. Student interaction with faculty is central to the quality of distance learning.**

- **This includes developing a sense of community in the distance learning environment. Other student support in a distance learning environment generally addressed by institutional accreditors includes admissions requirements, recruitment, and advertising. There are additional considerations related to the admission of students to a distance learning environment. Verification of student work takes on added significance in a distance learning environment.**
- **Student Learning Outcomes: One of the most significant changes in accreditation in the last ten years has been the increased attention accrediting organizations have been giving to student learning outcomes. Where once accreditation focused almost exclusively on educational resources and processes such as course syllabi, faculty qualifications, library holdings and physical plant, central to accreditation reviews today is evidence of student achievement.**

**Institutional accreditors require institutions to sustain a comprehensive system for the evaluation of the institution's educational effectiveness in relation to student learning.**

**More important, however, is the accreditors' requirement that institutions must document, as a result of their evaluation of their effectiveness, that they are in fact meeting their educational mission and goals and that their student outcomes are at an acceptable level.**

**This is true in the distance learning environment as well as campus-based learning.**

**Considering CHEA's seven areas of accreditation, Lee and Dziuban (2002) emphasize some important quality assurance strategies for online and distance learning programs: administrative leadership and support, ongoing program concerns and needs, web course development, student concerns and needs, faculty concerns and needs.**

**Another quality assurance advice for online and distance learning programs comes from Sloan Consortium (Sloan-C), created with funding from the Alfred P. Sloan Foundation.**

**Sloan-C encourages the collaborative sharing of knowledge and effective practices to improve online education in learning effectiveness, access, affordability for learners and providers, and student and faculty satisfaction with the goal of making higher education an ordinary part of everyday life.**

**Thus, in 1993, Sloan-C coined the term asynchronous learning network (ALN) to convey the idea that people learn at various times and places in everyday life.**

**Because ALN is a truly new and disruptive technology, Sloan-C emphasizes principles and metrics that can help establish benchmarks and standards for quality based on continuous quality improvement (CQI).**

**Five principles, known as the pillars of quality (Figure 2; Table 1), guide the familiar CQI process of identifying goals and benchmarks, measuring progress towards goals, refining methods, and continuously improving outcomes. Sloan-C quality framework enables each organization to set its own standard for each pillar (Moore, 2005).**



**Figure: 2**  
**Sloan – C Quality Framework (Moore, 2005).**

**Table: 3**  
**5<sup>th</sup> Level National Qualifications Framework For Higher Education in Turkey (http-4)**

NATIONAL QUALIFICATIONS FRAMEWORK FOR HIGHER EDUCATION IN TURKEY (NQF-HETR)						
5th Level (Associate's) Qualifications						
NQF-HETR LEVEL	KNOWLEDGE -Theoretical -Conceptual	SKILLS -Cognitive -Practical	COMPETENCES			
			Competence to Work Independently and Take Responsibility	Learning Competence	Communication and Social Competence	Field Specific Competence
<b>5 ASSOCIATE'S</b> <hr/> <b>EQF-LLL: 5th Level</b> <hr/> <b>QF-EHEA: Short Cycle</b>	-Possess theoretical and practical knowledge supported by textbooks with updated information, practice equipments and other resource on basic level based on qualifications gained at secondary education level.	- Gain the skills to use basic level theoretical and practical knowledge acquired within the field in the same field of a higher education level or in a field of same level. - Interpret and evaluate data, define problems, do analysis, produce solutions based on proof with using basic level knowledge and practices gained within the field.	- Conduct studies at basic level within the field independently. - Take responsibility as a team member in order to solve unexpected complex problems faced in the implementations within the field. - Conduct activities towards the development of subordinates within a project.	- Evaluate the acquired knowledge and skills at basic level within the field with a critical approach, determine and respond to learning needs. - Direct the education received to a higher education level in the same field or to an occupation in the same level. - Gain awareness of lifelong learning.	- Transfer the ideas based on the basic knowledge and skills acquired within the field through written and oral communication. - Share the ideas and solution proposals to problems about issues within the field with professionals and non-professionals. - Monitor the developments in the field and communicate with peers by using a foreign language at least at a level of European Language Portfolio A2 General Level. - Use informatics and communication technologies with at least a minimum level of European Computer Driving License Basic Level software knowledge.	- Possess social, scientific, cultural and ethic values on the stages of gathering, implementation and release of the results of data related to the field. - Possess sufficient consciousness about the issues of universality of social rights, social justice, quality, cultural values and also, environmental protection, worker's health and security.

**Table: 4**  
**Key Learning Outcomes of online GIS program (http-5)**

No	Key Learning Outcomes
<b>Upon the completion of the program, the students will be able to</b>	
1	have effective reading, writing, listening and speaking skills, and understand a foreign language at the basic level
2	pose clear and precise questions, use abstract ideas to express information, assess diverse points of view, achieve well-reasoned conclusions and test them in accordance with relevant criteria and standards
3	perform appropriate graphical presentations in each stage of the process, using a variety of techniques and media including computer technologies
4	gather, assess, record and apply information
5	use basic mathematical and analytical thinking principles for solving spatial problems
6	gain and develop two and three dimensional spatial and visual perception
7	take part in teamwork and assume responsibility as a project member
8	prepare data in remote sensing applications at a basic level
9	identify and solve problems, develop applications for the intended solution and use web based applications
10	analyze and interpret geographical data; use scientific techniques and computer technologies for the analysis and interpretation of all natural, cultural and physical data within the environment, and design the relations between data, location and environmental factors
11	understand basic subjects such as scale, scaling, mapping, projection systems and cartesian coordinate systems
12	have full understanding of technical subjects used in mapping such as photogrammetry, geodesy and remote sensing; apply projection transformations and parameters and use global positioning system
13	make analysis and interpretations to produce GIS data utilizing remote sensing methodologies
14	understand spatial and non-spatial data management systems
15	find appropriate examples with regard to program, problem and context to design and develop GIS projects
16	basically determine the requirements (hardware, software, human resources), data formats, basic analysis and features with regard to the intended GIS project scale
17	comprehend the interaction between man and his physical environment and diverse needs, demands, attitudes, social and spatial patterns that characterize different cultures
18	make statistical analysis using demographic, socio-economic and other similar data
19	comprehend the land with its natural and artificial characteristics and offer solutions regarding land conditions
20	make exact and correct technical definitions and documentation for investigation, development and application purposes
21	understand the responsibility of determining and reconciling the client, employer and user needs
22	design a basic project from scheme to detailed solution development stage
23	understand and manage the assignments, contracts, personnel, consultant selection, project delivery methods and service contracts
24	develop general understanding of mutual rights and responsibilities of the employer and the client; design and develop administration processes
25	lead the project process during start, design and application stages to provide a basic contract management
26	comprehend basic legal responsibilities regarding the project such as property, planning and housing, environmental legislation, user rights and etc.; ensure public health, security and welfare
27	prepare report, project, research and feasibility results toward project presentation
28	develop general understanding of ethics regarding professional judgement
29	understand the fundamentals of computer programming and develop interfaces and web based applications to satisfy institutional and personnel needs
30	assess and design a project with a narrowly scoped program, with regard to problem solutions, appropriate examples, spatial, physical, cultural needs, standards, legislation and environmental characteristics
31	work in and design a project related with basic remote sensing techniques
32	work in and design a project related with basic GIS

## CONCLUSIONS

The expansion of universities, student and academician mobility, upgrading of academic programs into multidiscipline institutions, and establishment of new ones are some common routes adopted by governments and higher education institutions to increase their preferability all around the World. New trends have been set in the function, governance, and capacity of higher education institutions. Consequently, as a part of quality assurance in higher education, accreditation processes including the major elements of compatibility such as students, educational goals, program outcomes and evaluation, faculty, infrastructure, institutional and financial support and program criteria are evidently on the rise whether the processes come in force or voluntarily.

While empowering universities to increase their qualities, from the point of view of equivalence and standardization, the position of distance education needs to be discussed. Online and distance education, a new trend in higher education resulted from the need to eliminate the space and time limitations and need to remove borders between the institutions, has never been widely accepted before. Additionally, considering the international scope of online and distance learning, the increase in diversification in the programs is inevitable. As a consequence of all these issues, quality assurance in relation to accreditation processes for online and distance education is not only dynamic but also open to change.

Anadolu University, the forerunner of distance education in Turkey with its thirty-year experience, is the owner of the online GIS program awarding an associate degree in the field. The program is one of the distance education programs concerning the national and international quality assurance issues like Bologna and the National Qualifications Framework for Higher Education in Turkey (NQF-HETR). In accordance with these national and international issues, credits of the courses have been determined according to work loads; and learning outcomes of the program have been clearly defined. The ongoing efforts in order to make the program accepted internationally, student and teacher surveys to evaluate the achievement of the learning outcomes, where the results are supposed to be the major inputs for improving and revising the courses, accessibility, learning methods and material are in progress.

As Anadolu University is a leading institution in Turkish Higher Education in various fields, such as accreditation and quality assurance efforts especially in engineering and architecture programs, it is also of great significance to spread these efforts into online and distance learning programs. From this point of view, accreditation of online GIS program of the university may play an important role for all online and distance learning programs in Turkey.

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http-2: <http://www.tyyc.yok.gov.tr/?pid=37>

http-3: <http://www.tyyc.yok.gov.tr/?pid=41>

http-4: <http://www.tyyc.yok.gov.tr/?pid=32>

http-5:

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